Daily GLOWBUGS

Digest: V1 #22

via AB4EL Web Digests @ SunSITE

Purpose: building and operating vacuum tube-based QRP rigs

AB4EL Ham Radio Homepage @ SunSITE

%%%% GlowBugs %%%% GlowBugs %%%% GlowBugs %%%% GlowBugs %%%%

Subject: glowbugs V1 #22
glowbugs Saturday, May 3 1997 Volume 01 : Number 022

Date: Fri, 2 May 1997 12:52:24 -0400 (EDT)
From: rdkeys@csemail.cropsci.ncsu.edu
Subject: Re: AN/GRC-109

> > >> Perhaps somebody
> > >> could scan or otherwise enter the circuit and add it to the growing
> > >> glowbugs collection.
> > >
> > >Hmmmmm. I have the complete manual. Could scan the schematics of rx,
> > >tx and powersupplies. Where would I put them?
> >
> > NA4G seems to be the keeper of the glowbugs circuit archives. Bob, can
> > you help out here?
>
> I also administer an anonymous FTP site which has free hard-drive space if
> that would prove useful to this list.
>
> 73,
> Ken W7EKB

Ken and others with an anonymous ftp site...... I do not mind at all that
the things I have are put up for ftp. My machine is beginning to runover
at the circular bit. I was hoping to get an anonymous ftp set up on the
www.atl.org location, but that had not worked out yet......real soon now.

If one or two of you folks with ftp sites want to get up with me, I can
arrange for a transfer of the archives that I have, and we can maybe
coordinate additions from all glowbuggeites, if space is available.
My toy unix box only has 600 megs of HD, and usually runs 90% full,
so anyone with a biggie space available that can put up 100 megs or more
get back with me. All I think we need are a couple of accessible ftp
sites with an anonymous guest ftp login, and a /pub/Glowbugs directory
tree. The rest I have set up by category (articles, manuals, historical,
misc, programs, dials, logs, military, and one or two others forthcoming).

Also, I am not actually the archive keeper (there ain't an official one,
yet). I just helped to instigate the setup of the current list, and try
to keep what I can in electronic form so It can be put somewheres, if there
are any folks interested. I have a backwash of about 50 different articles,
and several books that I am working on (all glowbuggeite OT in nature).
All it takes is time, which I seem to run squarely out of, consistently.

I would just hate to see it all get nuked if my HD's went belly up, and
I could not retrieve all the current editions from floppy.

Some of it is in the BA archives, but all the recently put up stuff is
not, and all the newly on-line stuff probably won't be.

Bob/NA4G

Date: Fri, 2 May 1997 12:57:46 -0400 (EDT)
From: rdkeys@csemail.cropsci.ncsu.edu
Subject: Looking for missing manual page

I need to locate a copy of page 9 of the SE 1420 manual and all of the
SE 1440 manual (both date from the Navy, about 1919). Also, I need the

BC-131 manual. Good xeroxes are fine. I am going to be adding these to
the glowbugs on-line archives as reprints, if I can ever find them.
If I can get them together and reprinted, then we will have the complete
set of the development of the standard Navy/commercial regenerative
receivers used from WWI through WWII, in the archives.

Any pointers appreciated. TIA SU ZUT DE NA4G/Bob

Date: Fri, 2 May 1997 12:42:38 -0500 (CDT)
From: mjsilva@ix.netcom.com (michael silva)
Subject: "Dual-control" pentode -- whasit?

Here's one for you experts: occasionally I see the term "dual-control"
pentode, but I've never seen an explanation. The closest I can infer
is that such a tube has a supressor grid (brought out separately) that
has enough control capability to make it useable as a signal grid. Am
I close?

73,
Mike, KK6GM

Date: Fri, 2 May 1997 14:00:36 -0400 (EDT)
From: rdkeys@csemail.cropsci.ncsu.edu
Subject: Re: 40M Hartley Glowbuggeitis Grandioso

>
> You wouldn't just happen to have a schematic/pictures/etc? It sounds like
> fun. 1/4" copper tubing should make a nice tank coil. Is this a TPTG
> design or a straight Hartley VFO ?

I like the 1928 handbook, myself, altough Grammer's 30's construction
articles of Hartleys are the quintessential Hamdomitis hartleyitis bug
for folks like me. Grammer had a habit of simplifying things about
5 years after the technology prime, that made it fun reading and easy
to make.

Grammer's 1934 Hartley is in the GB or BA archives (ftp.sco.theporch.com
in the pub/mailing-lists/boatanchors directory as GG*.* files). You can
easily scale it up or down for whatever tube you desire. Wire 1/4 inch
copper for 50 watters, and 3/8 inch copper for 100 watters, and 1/2
inch copper for 250 watters and up. Run at 25-50% rated KW input,
and adjust to about 25% of that max output and it should do fine.

> Do you use an antenna coupler between it and the antenna? Does it chirp?

Well, generically, on Hartleys, the antenna tuner is built-in. Some
folks run them with a 1 or 2 turn link into modern tuners, tho.
Traditionally, a Hartley or related self-controlled oscillator had
the primary circuit built-in, so who needed an antenna tuner. Only when
hamds got hooked on lossy-resistor-COaxe did folks not incorporate the
antenna tuner into their rigs, anymore. Since I use end fed wires or
open wire line, the breadboard tuner works fine right on the rig.

> Where do you key it? Cathode?

Generically Hartleys can be keyed almost anywhere, although the B-
lead has worked best in my hands, with grid block keying second,
and primary keying third, and all else so-so. Use a good key thump
filter to properly shape the keying or you will have keyklickitis.
Primary keying only goes up to 25 wpm or so, because of filter lag.
B- keying will QRQ anything, as will grid block keying. Cathode
keying (AKA center-tap keying) works so-so unless the power supply
is quite stiff and proper key shaping is done. I always get a little
chirp on cathode keying, but usually very little on B- keying. I have
only done primary keying once, and it worked, and I love Bruce Kelley's
(2AN) primary keying. That is musick to hear.

> I wonder if I could get one of my old 304TLs to work in such a circuit?
> Probably get killed in the process! :-)

304's would do well, as would 833's and many other things. 849's are great
period tubes for the old '04A, but sockets are nil easy to find anymore.

> Lessee...I have some 8000s, an 811 or two, some 805s and some 803s, and
> power supplies for them.

8000's do fine, and I use an 805 in Grandma Hartley on 80M, and she loves

it and perks like a sassy lassie, with nil chrip, 35wpm keying, and around
25 watts input and maybe 10 watts output. I have not had good luck with
811's but some on 812's. I have not tried the new Svetlana single-ended
things, yet.

> 73,
> Ken W7EKB

Come on, Ken, drags ye out yer breadboarden rigs an' stokes 'em up!
Keeps ye yer fingers aways from da HV, and aways ye goes.

Although I don't have anything on 40M, I will fire up Henrietty Hartley
on 160 or Grandma Hartley on 80, anytime after dark. QTR after dark,
QRG 3579+-yer finger twitch on the dial, or 1805 +- likewise.

Mebbie it is time for me ta rounds me up some copper tubing for a 40M
beastie......hmmmmmmm.

73/ZUT DE NA4G/Bob UP

Date: Fri, 2 May 1997 11:46:08 -0700 (MST)
From: Chris Trask <ctrask@primenet.com>
Subject: Re: "Dual-control" pentode -- whasit?

On Fri, 2 May 1997, michael silva wrote:

> Here's one for you experts: occasionally I see the term "dual-control"
> pentode, but I've never seen an explanation. The closest I can infer
> is that such a tube has a supressor grid (brought out separately) that
> has enough control capability to make it useable as a signal grid. Am
> I close?
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> 73,
> Mike, KK6GM
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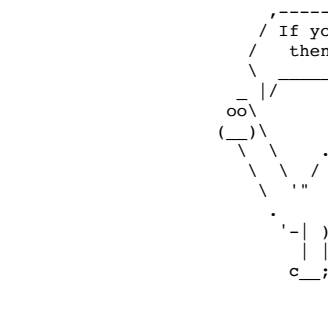
        This may be the "Duo-Pentode" that was used in Europe in place of
the sheet-beam modulator. It has a single cathode and control grid, but
then two screen grids, suppressor grids, and plates, if I remember cor-
rectly. I can't think of any type numbers off hand.

        I gotta go.

                                        Regards,

                                        Chris



Circuit Design for the
RF Impaired

Chris Trask / N7ZWY
Principal Engineer
ATG Design Services
P.O. Box 25240
Tempe, Arizona 85285-5240

Email: ctrask@primenet.com

Graphics by Loek Frederiks

Date: Fri, 2 May 1997 15:08:01 -0400 (EDT)
From: rdkeys@csemail.cropsci.ncsu.edu
Subject: GB Weekend QRG QTR Funzies.....(:+}}.....

Well, folks, let us keep our interest up this fine weekend and see if we
can makes us a few Glowebugge QSO's amidst the ether waves. I will try
to keep the rig on 40M on 7050 every hour, and see if I can raise anyone,
night or day. Likewise, after dark, I will keep another rig on 80M to
see if any 80M freaks be about on the usual QRG. So, that will mean my
weekend should be a lot of fun, aside from a couple hours around noonish
that I need to push a few testtubes de sciencystuff at the lab.

So, Fellow Glowbuggeites, Rally Round a fine weekend's watch, at any hour

on the hour and let us see if we can hear some of those pipsqueek rigs,
loose Hartley etherburners, misc. junqueus-boxeus whateveritisglowbottleus,
and anything else ye canst fires up. All it needst do is glow in da dark!
(If all ye gots is a sandyburner, that will doo, too.)

CALL --- CQ BA CQ BA DE <yourcall> <yourcall> K

QTR --- Any Hour On The Hour, All Weekend Long, Till da Gristmill be Callin'
        Monday Morn......

QRG --- 7050 anytime day or night
        3579 anytime after dark

Keeps ye a logge o' some sorts fer reports back at da crewe.

The XYL be outta town, da kids be away at tourneys a'rollin them thar
round balls wats used ta bowls over funny shaped standin' logs, an' de
ol' man be itchy on de ol' sendin' iron --- (wat else be new, right?).

Fires ye up yer treasured Glowbottley rigges, grapples ye up yer tin cans
atops yer noggins, an' a'readys ye yer keys at the fore.

Extra rations o'rum fer them thar regenerators et Hartleyus rigges!

73/ZUT DE NA4G/Bob UP

Date: Fri, 02 May 1997 15:26:41 EDT
From: ac4gt@juno.com (nathan c tart)
Subject: [none]

==========

Date: Fri, 2 May 1997 12:49:27 -0700 (PDT)
From: John Kolb <jlkolb@cts.com>
Subject: Re: "Dual-control" pentode -- whasit?

On Fri, 2 May 1997, Chris Trask wrote:

> On Fri, 2 May 1997, michael silva wrote:
>
> > Here's one for you experts: occasionally I see the term "dual-control"
> > pentode, but I've never seen an explanation. The closest I can infer
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>   This may be the "Duo-Pentode" that was used in Europe in place of
> the sheet-beam modulator. It has a single cathode and control grid, but
> then two screen grids, suppressor grids, and plates, if I remember cor-
> rectly. I can't think of any type numbers off hand.

Here's part of a msg I once wrote on possible 7360 replacements.

The 6AR8 was a beam deflection tube like the 7360 and 6JH8, but the
6BU8 is called a twin pentode, and has a common cathode, G1 and
G2, but seperate G3 and plates.

TYPE	DESCRIPTION	BASE	OTHERS
6GS8	twin pentode	9FG	3GS8, 3BU8, 4GS8
6LE8	twin pentode	9QZ	8LE8, 10LE8, 15LE8
6ME8	beam deflection	9RU	
6MK8	twin pentode	9FG	4MK8
7360	beam deflection	9KS	
6BU8	twin pentode	9FG	3BU8, 3GS8, 4BU8, 4GS8
6AR8	beam deflection	9DP	

John Kolb KK6IL jlkolb@cts.com

Date: Sat, 3 May 1997 00:11:02 EST
From: k7sz@juno.com (Richard H. Arland)
Subject: Re: AN/GRC-109

On Fri, 2 May 1997 09:03:30 -0700 (MST) Jeff Duntemann
<jeffd@coriolis.com> writes:

>What would be the best way to run this thing off a car battery?

Hi Jeff:

Glad you took the leap and got a GRC-109....I love mine....brings back
the fun of the old days as a Novice.

The British SAS had a version called the Mk-123 set that was housed in a
wooden case, had a built in straight key, put out about 10 watts and had
a tuneable RX from 2-18 mc (if I remember correctly). I bought one in the
UK about 15 years ago and very stupidly sold it.

As for working the GRC-109 off of a 12 volt battery....there is a trick
that an old Dirt Radio dude showed me: you take a self tapping
screw....go into the top of a 12 volt battery about half way down the
length of the battery between the two terminals and you will tap into a
lead strap that connects the cells together....From the negative end to
this strap would be 6VDC. Most of the batterys have the tar covering the
top of the battery thin enuff so you can actually see the lead strap
beneath the tar. Use care.

The only other solution would be go to Sams Club and pick up a 6VDC golf
cart battery....this is a deep cycle battery which should be perfect for
this applicaiton. Now your next project is to find a 6 volt charger!

73 rich K7SZ

Date: Fri, 2 May 1997 17:58:27 -0700 (MST)
From: Jeff Duntemann <jeffd@coriolis.com>
Subject: Re: AN/GRC-109

At 12:11 AM 5/3/97 EST, you wrote:

>As for working the GRC-109 off of a 12 volt battery....there is a trick
>that an old Dirt Radio dude showed me: you take a self tapping
>screw....go into the top of a 12 volt battery about half way down the
>length of the battery between the two terminals and you will tap into a
>lead strap that connects the cells together....From the negative end to
>this strap would be 6VDC. Most of the batterys have the tar covering the
>top of the battery thin enuff so you can actually see the lead strap
>beneath the tar. Use care.

Supposedly, there's a dynamotor for the unit that allows it to be run off
of 12V. How do they do the filament values from a dynamotor? Are there
special winding taps that put out 6V and (for the receiver) 1V?

It's not a big deal, but it would be a kick to take the station camping.
One slightly goofy notion but quite possible in Arizona here is to run it
off several solar panels. Sure, lighting filaments with solar energy is a
waste, but we have sun to burn here in the desert!

- --73--

- --JD--

Date: Fri, 2 May 1997 18:47:54 -0700 (PDT)
From: JMcAulay <jmc@QNET.COM>
Subject: An old "spy" rig

Say, folks, I'll take a turn for a li'l nostalgia (which we all know ain't
what it useta be).

Back in early 1963, while in Pennsylvania trying to get one more broadcast
array to work, the BC station Chief Engineer told me about a guy who sold a
little surplus out of his basement.   I went there one night; found mostly
junk and one shining jewel.

This thing was a green-painted aluminum box which had no markings of any
kind on it to indicate type number or just about anything else.   It came
with two other green boxes which had power supplies in 'em.   One worked on
the usual juice from 110 to 250 VAC, the other was for 6VDC.   The power
supplies were each about 6x8x10 inches or so, and hefted as if stuffed with
depleted uranium, or some such.   The main box was something like 5" high,
maybe 14x20 inches looking down on the cover, and weighed in at around 25
pounds or so.   Unsnapping the cover revealed a marvelous panel and a lot of
holes and slots cut into a block of felt.   Room for a key, crystals, spare
tubes, set of cans, room for enough wire for some kind of antenna.

The receiver was sorta mediocre, a 6.3V "All-American 5" version as far as the tubes went: all single ended octal bottles, added tube for BFO. Poor tuning rate, so yours truly robbed a screw from the panel and put a tiny trimmer with a miniature shaft through the screw-hole for spreading the local oscillator freq. Worked fine, with no big hole drilled in the panel. Transmitter was a little jewel. 6V6 crystal oscillator and a 2E22 final. For those not familiar (I sure wasn't), the 2E22 is basically 807 innards with a directly-heated filament. No QSK, you see; I guess that might've used too much warmin' up and lightin' up power. Standby switch on this thing moved the antenna, took B+ off the transmitter, put it on the whole receiver instead of just the audio (for sidetone), and turned off the final filament. Really. It had a pi-output that I think would've loaded up anything from a bobby-pin to a section fence, and several contacts were made that late winter/early spring on 40 meters, using a 75-foot wire about 10 feet of the ground. Not only a large number of domestic stations, several foreign contacts too (best DX: Moscow). Not being certain at all, I sort of remember the frequency range was 4 to 18 MHz, or something odd like that.

If anyone has any idea what this little marvel was, I'd appreciate hearing about it. And if anyone has one lying around somewhere, even if it's a 1/2 out of 10, well, please please be sure I'd love to own one again.

In many ways, it was a rig that left a lot to be desired. Rugged, however, that it was. Worked every time it was ever fired up, without a whimper.

Meanwhile, I think I'll get meself one o' those Angry-109s ev'rybody's been talkin' about. Never saw one. Back when I was in the US forces, the GRC-9 was the hot radio. It was a pretty doggoned good one, too. When I was a Sergeant, I used to teach how to operate it to officers who were at Aberdeen Proving Ground for summer training. Yep, I did it too... always tried to get the highest-ranking guy in class to turn the genny crank. Bird Colonel once. Wanted 'em to know what it felt like during a looooong voice transmission. Figured it might encourage 'em to be more short-winded.

Gz, I'm beginnin' to sound old.

73
John WA6QPL@amsat.org

Date: Sat, 3 May 1997 02:26:50 -0400 (EDT)
From: EricNess@aol.com
Subject: Orphan 6GW8 Glowbug

List members may remember my story about finding a poor neglected one tube transmitter at a recent ham swap. Due to the poor parts layout and the fact that the chassis didn't fit into the box, I decided to rebuild the transmitter using the original parts. Thanks to the assistance of many list members, I received the pin out of the tube and was able to trace out the schematic. At the same time I punched out a new front panel and chassis.

I was wondering whether to rebuild the same circuit or build a proven design using the same tube. I was searching the web pages of list member Brian Carling, AF4K (a book mark for Brian's pages are a must for Glowbug fans) for a proven design using the 6GW8 and I stumbled upon "The Mighty Midget" from the Feburary 1966 QST. Upon closer examination, realized my transmitter was a realization of the same circuit. No need to look for a proven circuit, I already have one. I do plan to add a few improvements like a fuse, power lamp, plate current meter, and a neon RF indicator.

This weekend I will paint the front panel and plan the final holes in the chassis. Wiring will begin as soon as the paint dries. The paint can says I have to wait AT LEAST 48 hours for the paint to harden. I can't stand it. Fortunately there are two electronic swaps so the weekend will not be a total waste. HI HI

73, Eric WD6DGX

Date: Sat, 3 May 1997 12:12:55 -0400 (EDT)
From: EWoodman@aol.com
Subject: Cheap "VFO" for Ameco TX-62

Some of you may already know this but I thought I'd pass this along just in case. I had a TX-62 given to me that's in real nice shape. The only problem is that I have no 6M crystals for it, only a few 2M ones that came out of my Heathkit HW-17. I could at least test out the rig on 6 into a dummy load using a 2M crystal. Just a bit low in frequency. I happened to be looking through one of my old books and it was suggested to try substituting a series

LC circuit in place of the crystal. Apparently in a lot of cases it works. Way back years ago I had tried this in another crystal oscillator (don't remember the freq) and had lousy luck. But what the heck, I had nothing to lose by trying. I took the variable cap/coil assembly out of my spare T-150 parts rig and wired it up. It has 3 slug-tuned coils in series with a verinier driven 3 section variable with trimmers for each section. Is set up for 80, 40, and 6 meters. The 6 meter combo actually is for 8+ Mc. I connected it to the crystal socket with a short piece of rg58 and a tv twin lead plug. After fiddling a bit with the trimmer and coil slug, the thing began to oscillate. I had to crank up the drive a bit more to get the same power output as with the crystal but it definitely works.It's also very stable. Really surprised me as I didn't expect it to work. Might be a solution for any of you with a 6M rig but are lacking in crystals.

73 Eric KA1YRV

Date: Sat, 3 May 1997 12:46:21 -0500 (CDT)
From: "Carol N. Wright" <cnw@HiWAAY.net>
Subject: Hey Gang!

Hey Gang,
I'm new to this list and the tube type gear. I've gotten a hold of two 6L6 tubes and plan to make a transmitter out of it. I have someone sending me some schematics and I'll try to get the other necessary parts up and get this tube transmitter built.

My age is 16 years old and I've been a ham for almost 3 years. I'm into QRP, homebrewing, DX, CW 70% of the time. So these are my interests in Amateur Radio.

So I hope that I can find a spot on this list. I've only had one piece of tube type gear and loved it. It was a Hallicrafters S-108 rcvr which I hate to say that I don't have it any more. Best 72/73 DE Matt, AE4JM

End of glowbugs V1 #22
****